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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of
David M. FINK, et al.

Examiner: **SHAMEEM, Golam M.**

Application No.: **10/088,250**

Art Unit: **1626**

Filed: **December 23, 2002**

Title: **THIENOSOXAZOLYL-AND
THIENYLPYRRAZOLYL PHENOXY
SUBSTITUTED PROPYL DERIVATIVES
USEFUL AS D4 ANTAGONISTS**

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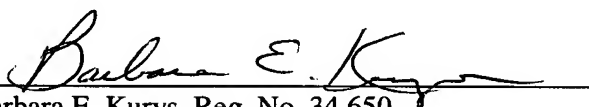
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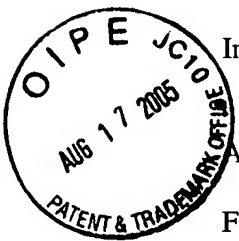
Respectfully submitted,


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Aventis Docket No. HMR2023 US PCT

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- ☐ (a) This Information Disclosure Statement is filed within the period set forth in §1.97(b) because it accompanies the new patent application submitted herewith, is filed within three months of the filing date of a national application or within three months of the date of entry of the national stage as set forth in §1.491 in an international application, or is believed to be filed before the mailing date of a first Office Action on the merits, whichever event occurs last. However, in the event that the first office action has been mailed, the Commissioner is authorized to charge any fees under 37 C.F.R. 1.17(p) or credit any overpayment to Account No. **18-1982**.

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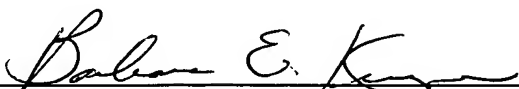
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10/088,369

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Application Number	10/088,250
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First Named Inventor	FINK, et. al.
Group Art Unit	1626
Examiner Name	SHAMEEM, Golam M.
Attorney Docket Number	USHMR2023 - US - PCT

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
	*	4,075,227		JONES, et. al.	02-21-1978	
	*	4,085,114		ADACHI, et. al.	04-18-1978	
	*	4,355,037		STRUPCZEWSKI, et. al.	10-19-1982	
	*	4,408,053		STRUPCZEWSKI, et. al.	10-04-1983	
	*	4,408,054		STRUPCZEWSKI, et. al.	10-04-1983	
	*	4,427,691		SHUTSKE, et. al.	01-24-1984	
	*	4,452,804		SHUTSKE, et. al.	06-06-1984	
	*	4,469,869		STRUPCZEWSKI, et. al.	09-04-1984	
	*	4,504,669		SHUTSKE, et. al.	03-12-1985	
	*	4,528,376		STRUPCZEWSKI, et. al.	07-09-1985	
	*	4,644,064		SHUTSKE, et. al.	02-17-1987	
	*	4,728,651		ONG, et. al.	03-01-1988	
	*	4,769,472		ONG, et. al.	09-06-1988	
	*	5,254,595		GUZZI, et. al.	10-19-1993	
	*	5,321,037		NAGANO, et. al.	06-14-1994	
	*	5,340,833		BRIDGES, et. al.	08-23-1994	
	*	5,593,994		BATT, et. al.	01-14-1997	
	*	5,696,113		PALERMO, et. al.	12-09-1997	
	*	5,843,940		CULLINAN, et. al.	12-01-1998	
	*	5,856,503		AEBI, et. al.	01-05-1999	

FOREIGN PATENT DOCUMENTS

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		Office ³	Number ⁴	Kind Code ⁵ (if known)				
	*	EP	0058977		SHUTSKE, et. al.	09-01-1982		
	*	EP	0221414		ONG, et. al.	05-13-1987		
	*	EP	0729955		CULLINAN, et. al.	09-04-1996		
	*	WO	01/19833		FINK, et. al.	03-22-2001		
	*	WO	97/28115		ADAMS, et. al.	08-07-1997		
	*	GB	1,269,776		SMITH, et. al.	04-06-1972		

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10/088,250

12-23-2002

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1626

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Attorney Docket Number	USHMR2023 - US - PCT

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	*	ASGHARI, V., et. al., Dopamine D4 Receptor Repeat: Analysis of Different Native and Mutant Forms of the Human and Rat Genes, Molecular Pharmacology Vol. 46, pp. 364-373 (1994)	
	*	BASSITT, D.P., et. al., Clozapine Efficacy in Tardive Dyskinesia in Schizophrenic Patients; European Archives of Psychiatry and Clinical Neuroscience Vol.248, pp. 209-211 (1998)	
	*	BENJAMIN, J., et. al., Population and Familial Association between the D4 Dopamine Receptor gene and Measures of Novelty Seeking, Nature Genetics Vol. 12, pp. 81-84 (1996)	
	*	BRYCE, M., et. al., Synthesis and Cyclic Voltammetric Behaviour of Some 3-Substituted Thiophenes and Pyrroles: Precursors for the Preparation of Conducting Polymers, Synthetic Metal, Vol. 26, (1988) pp. 153- 168	
	*	CORBETT, R., et. al., Iloperidone: Preclinical Profile and Early Clinical Evaluation, CNS Drug Review Vol.3, No. 2, pp. 120 -147 (1997)	
	*	CRENSHAW, R.R., et. al., Potential Antifertility Agents, 1. Substituted Diaryl Derivatives of Benzo[b]thiophenes, Benzo[b]furans, 1H-2-Benzothiapyrans, and 2H-1-Benzothiapyrans, Journal of Medicinal Chemistry, Vol. 14, No.12, (1971) pp. 1185-1190	
	*	CRUZ, C., et. al., Increased Prevalence of the Seven-Repeat Variant of the Dopamine D4 Receptor Gene in Patients with Obsessive-Compulsive Disorder with Tics, Neuroscience Letters Vol. 231, pp. 1-4, (1997)	
	*	EBSTEIN, R.E., et. al., Dopamine D4 Receptor (D4DR) exon III Polymorphism Associated with the Human Personality Trait of Novelty Seeking, Nature Genetics Vol. 12, (1996) pp. 78-80	
	*	ELWORTHY, T. R., et. al., N-Arylpiperaziny-N-Propylamino Derivatives of Heteroaryl Amides as Functional Uroselective α 1-Adrenoceptor Antagonists, Indian Journal of Chemistry - part B Organic Including Medicinal Vol. 40, pp.2674-2687, (1997)	
	*	ERENBERG, G., et. al., Gilles De La Tourette's Syndrome: Effects of Stimulant Drugs, Neurology Vol.35, No. 35, pp.1346-1348, (1985)	

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	*	FACTOR, S.A., et. al., The Emerging Role of Clozapine in the Treatment of Movement Disorders, Movement Disorders Vol. 12, No.4 (1997) pp. 483-496	
	*	FELDPAUSCH, D.L., et. al., The Role of Dopamine D4 Receptor in the Induction of Behavioral Sensitization to Amphetamine and Accompanying Biochemical and Molecular Adaptations, Journal of Pharmacology and Experimental Therapeutics Vol. 266, pp.497-508 (1998)	
	*	FRIEDMAN, J.H., et. al., Substituting Clozapine for Olanzapine in Psychiatrically Stable Parkinson's Disease Patients: Results of an Open Label for Pilot Study, Clinical Neuropharmacology, Vol. 21, No. 5 pp. 285-288 (1998)	
	*	GRICE, D.E., et. al., Linkage Disequilibrium between an Allele at the Dopamine D4 Receptor Locus and Tourette Syndrome, by the Transmission-Disequilibrium Test, American Journal of Human Genetics Vol.59, pp.644-652 (1996)	
	*	HELSLEY, G.C., et. al., Piperidylalkylindoles. 1. Hypotensive Activity of 3-[2-(Phenoxypiperidyl)ethyl]Indoles, Journal of Medicinal Chemistry, (1978), Vol.21, No.3 pp. 309-312	
	*	LAHOSTE, G., et. al., Dopamine D4 Receptor Gene Polymorphism is Associated with Attention Deficit Hyperactivity Disorder, Molecular Psychiatry Vol. 1, pp. 121-124 (1996)	
	*	LAHTI, R.A., et. al., Direct Determination of Dopamine D4 Receptors in Normal and Schizophrenic Postmortem Brain Tissue: A [3H]NGD-94-1 Study, Molecular Psychiatry Vol. 3, pp. 528-533 (1998)	
	*	MAGDO, I., et. al., 3D quantitative structure-activity relationship (CoMFA) study of heterocyclic arylpiperazine derivatives with 5-HT1A activity, Database Chemabs Online! Chemical Abstracts Service, Columbus, Ohio, US	
	*	RICKETTS, H., et. al., Association of Long Variants of the Dopamine D4 Receptor Exon 3 Repeat Polymorphism with Parkinson's Disease, Clinical Genetics Vol. 54, pp. 33-38 (1998)	
	*	RUBINSTEIN, M., et. al., Mice Lacking Dopamine D4 Receptors are Supersensitive to Ethanol, Cocaine, and Methamphetamine, Cell, Vol.90, pp. 991-1001 (1997)	

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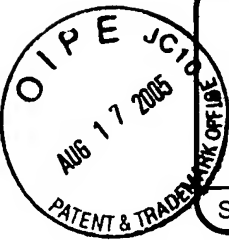
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	*	SALL, D., et. al., Dibasic Benzo[b]thiophene Derivatives as a Novel Class of Active Site-Directed Thrombin Inhibitors. 1. Determination of the Serine Protease Selectivity, Structure - Activity Relationships, and Binding Orientation, Journal of Medicinal Chemistry Vol.40, No. 22, (1997) pp. 3489 - 3493	
	*	SCHODER, J., et. al., D2 Dopamine Receptor Up-Regulation, Treatment Response, Neurological Soft Signs, and Extrapyramidal Side Effects in Schizophrenia: A Follow-Up Study with 123I-Iodobenzamide Single Photon Emission Computed Tomography in the Drug Naive State and after Neuroleptic Treatment, Society of Biological Psychiatry Vol.43, pp.660-665, (1998)	
	*	SEEMAN, P., et. al., Atypical Neuroleptics Have Low Affinity for Dopamine D2 Receptors or Are Selectivefor D4 Receptors, Neuropsychopharmacology Vol.16, Iss. 2, pp. 92-135 (1997)	
	*	SEEMAN, P., et. al., Schizophrenia: Eleveation of dopamine D4-like sites, using [3H]Nemonapride and [125I]Epidepride , European Journal of Pharmacology Vol.286 (1995) R3-R5	
	*	SHIELDS, P.G., et. al., Dopamine D4 Receptors and the Risk of Cigarette Smoke in African-Americans and Caucasians ¹ , Cancer Epidemiology, Biomarkers & Prevention Vol. 7, pp.453-458 (1998)	
	*	VAN TOL, H.M., et. al., Cloning of the gene for a human dopamine D4 receptor with high affinity for the antipsychotic clozapine, Letters to Nature, Vol. 350, 1991, pp 610-614	
	*	VAN TOL, H.M., et. al., The Dopamine D4 Receptor: A Novel Site for Antipsychotic Action , Clinical Neuropharmacology Vol. 18, No.1 pp. 5143-5153 (1995)	
	*	VANTOL, H.M., et. al., Mutiple Dopamine D4 Receptor Variants in the Human Population , Nature Vol. 358 - 9 (1992) - pp.149 -152	
	*	ZHU, J., et. al., Synthesis of 2-(4-Halogenobenzyl)-3-Arylbenzo[b]-Thiophenes and a 2-(4-Fluorobenzyl)-3-Arylbenzo[b]-Selenophene as Selective Ligands for Antiestrogen-Binding Sites	

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